Avant

**Mechanical,
Programmable
Keyboards**

NOTES

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Changes

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ATTENTION KEYBOARD OPERATOR

Some studies suggest that continuous use of a keyboard may cause cumulative trauma disorders or related injuries. These studies also suggest that extended periods of repetitive movement when combined with improper work habits or poorly designed work environments may lead to certain types of physical discomfort such as numbing or aching in the hands or wrists. If you should experience any of these symptoms, please consult a qualified health professional.

It is suggested that the following actions be taken to help reduce risk of cumulative trama disorders:

> Maintain upright posture with relaxed wrist position.
>
> Take frequent breaks from typing.
>
> Exercise regularly.
>
> Sustain good health habits.

CVT Avant Keyboard Limited Warranty

Money Back Guarantee

CVT is so confident in the quality of our Avant keyboards that we offer the original purchaser a 30-day money back guarantee. The keyboard must be received back at our facility within 30 days from the date of invoice. Freight charges are non-refundable. Contact CVT or CVT's authorized distributor for return shipment instructions.

Two Year Limited Warranty

CVT warrants that the Avant keyboards will be free from defect in materials and workmanship under normal use for a period of two (2) years from the date invoiced. Proof of purchase (invoice/packing slip) and original packaging will be required for warranty work.

This warranty is a limited warranty and as the exclusive remedy for a breach of this warranty, CVT, at its sole discretion, will either repair or replace the defective keyboard. All exchange keyboards become the property of CVT. This warranty does not cover damages or defects to the keyboard resulting from alteration, assembly, negligence, accidents, misuse, abuse, improper power source, improper operating environment or repairs and services rendered by anyone other than a CVT Inc. authorized service representative. In order to take advantage of this warranty, the customer must provide proof of ownership at the time of repair or replacement. This warranty will be void if, in the sole opinion of CVT, the product has been damaged by accident, misuse, misapplication, lack of proper maintenance or an act of God.

Introduction

Congratulations on your purchase of an Avant keyboard!

This document describes setup and software installation for the Avant Series keyboards. An in-depth instruction manual is located in the on-line Help File. Your Avant will give you unmatched performance and features:

- Left and right Windows™ keys
- Windows™ application key
- Keyboard remapping
- Macro programming
- Comma/Period lock
- Optional settings for repeat rate, delay before repeat and validation time
- Standard, lock and sticky settings for Shift, Control and Alt keys
- Caps Lock, Num Lock, Scroll Lock and Macro Mode indicators
- Dvorak layouts available through remapping facility
- Full stroke mechanical click/tactile switches
- High quality constructed metal base

About Your Keyboard

Your new Avant keyboard represents state-of-the-art keyboard technology. It has been widely praised for its full-stroke range of motion and the tactile feedback produced by quality keyswitches.

Press a few keys on the keyboard. The keys are firm and responsive. The slight click you hear and feel when pressing a key is mechanical, not an electronic beep. Each key has a special mechanical switch causing each keystroke to be firm and efficient. The responsive Avant keyboard will make your keyboarding experience the best you've ever felt!

Unpacking And Installation

Complete the following steps to install your Avant keyboard:

- Carefully unpack your keyboard as you would any other piece of electronic equipment.
- Store the packing material in a safe place. If, for any reason, you are required to return the keyboard during the warranty period, the keyboard must be shipped in the original packaging along with a copy of the invoice/packing slip.
- Turn your computer off.
- Disconnect your old keyboard.
- Connect the Avant keyboard to your system by plugging the cable into the appropriate port on your system.
- The keyboard comes standard with the 6-pin mini DIN connector. If you need a 5-pin AT style plug, please purchase the appropriate adapter.
- Press and hold the <Escape> key while turning on your system. When the indicator lights blink, release the <Escape> key. This ensures that the keyboard is set to the factory default settings.

PS/2 Style
6 PIN MINI DIN
Connector
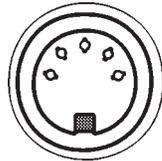
AT style
5 PIN DIN
Connector

Troubleshooting and Technical Support

If you experience problems or questions setting up or using your Avant keyboard, please refer to the on-line help located in the Avant utilities program. In many instances problems that arise are minor and can be resolved easily.

If you are unable to resolve the problem, contact CVT for technical support. For technical support worldwide, call 763-478-6446.

Please have the following information ready when you call CVT: computer manufacturer, computer model number, computer type, operating system version and keyboard serial number.

Operating System Compatibility

The utilities supplied with the Avant keyboards were created to work with Microsoft Windows 3.x, Windows for Workgroups™ version 3.11 and Windows 9x. The programming utilities will not operate with Windows NT™, Windows 2000™, IBM OS/2™ or UNIX.

To use the programming features on a Windows NT™, Windows 2000™, IBM OS/2™ or UNIX system, please program the keyboard to your desired settings on a system running Windows 3.x or Windows 9x. Once programmed, you can then move the keyboard. All of the programming stays resident in the keyboard and will not be effected by a change in the operating system.

Known Compatibility Issues

Notebook and Portable Computers

Notebook computers already contain a keyboard. The Avant programming utility may not correctly recognize the keyboard on these systems. A possible remedy is to:

- Create all macros in Windows 3.x or Windows 9.x and save the layout to a file.
- Exit completely from Windows. If you are running Windows 9x you must shutdown the computer by choosing "Restart the computer to MS-DOS mode."
- Use the AVANTDWN.EXE utility to program the keyboard. This utility is located in C:\Avant directory by default. To use the program run AVANTDWN with the file you saved previously as the object.

Example: AVANTDWN mylayout.kbd

Where "mylayout.kbd" is the keyboard layout you saved while in Windows.

If this procedure is not successful, program the keyboard on another computer and move the programmed keyboard to the notebook system.

Avant Utilities Installation

Note: Before installing this program, close all open applications.

The Avant Utilities Disk is a single 3.5" diskette containing an installation program called "CVTSETUP.EXE".

Windows 3.x Installation

1. From the Program Manager in Windows, select File, then Run.
2. Load the program by typing A:\cvtsetup or B:\cvtsetup.
3. Choose the proper Avant Keyboard model: Stellar or Prime.
4. Choose the type of Mouse that you are using: PS/2 or Serial.
5. Avant icons will appear on your screen.
6. If required by the installation program, restart your computer.
7. Click on the icon that designates your keyboard.
8. Select the on-line help file for more detailed instructions and information.

Windows 9x Installation

1. From the Program Manager in Windows, select Start, then Run.
2. Load the program by typing A:\cvtsetup or B:\cvtsetup.
3. Choose the proper Avant Keyboard model: Stellar or Prime.
4. Choose the type of Mouse that you are using: PS/2 or Serial.
5. Avant icons will appear on your screen.
6. If required by the installation program, restart your computer.
7. Click on the icon that designates your keyboard.
8. Select the on-line help file for more detailed instructions and information.

Quick Tutorial

Remapping Keys

Remapping refers to changing a single key to another function. For example, if you never use the <L> key but use the <BACKSPACE> often, you can make the keyboard send a <BACKSPACE> every time the <L> is pressed. Follow these steps.

- Click on the <L> key as displayed on the screen.
- The <L> on the key turns red to show it is selected.
- Under Modifiers, use the lever on the right side of the selection box to move down until <BACK SPACE> is shown. Click on <BACKSPACE>.
- Click on ACCEPT button.
- The <L> key on the display now shows that it is a <BACKSPACE>.
- Press DOWNLOAD to send the new program to the keyboard. Carefully follow the directions on the screen.
- Now close the Avant Utility. When you are asked if you wish to save changes respond *NO*.
- Try any word processor program. You will find that every time you press the <L> key a <BACKSPACE> will be generated instead.

As you will need to use the <L> key in the future, let's switch the keyboard back to normal:

- Start the Avant utility.
- Click on Clear ALL.
- Now press the Download button.
- After the download process is complete, your keyboard is back to normal. The <L> key is an <L> key again!

Creating a Macro

A macro helps automate common tasks by turning a series of key presses into a single key press. The following example illustrates a macro that quickly enters your name with a single key combination.

Open the Avant Utility Software. The full keyboard layout appears on the screen in Remap mode.

Hardware and Software Compatibility

The Avant keyboards are compatible with the majority of hardware and software available on the market today. For more information about compatibility issues, please read the following:

Hardware Compatibility

The Avant keyboards are compatible with virtually all standard AT type 80386, 80486, Pentium, Pentium II/III and Xeon systems.

The Avant keyboards will not function with an XT/8088 type computer including the original IBM PC and IBM XT systems.

The Avant keyboards rely on the inclusion of a standard keyboard decoder chip in your computer system. As a result, systems or notebooks using non-standard decoder chips may have compatibility issues.

Software Compatibility

The Avant keyboards are compatible with most brands and versions of software on the market. Note that the special Windows keys may not be recognized by your applications.

Software not written for enhanced keyboards like the Avant may not operate correctly. Specifically, certain older macro programs may not operate properly. This type of software may cause problems even when used with industry standard enhanced keyboards. This is not a problem with the keyboard. We recommend that you contact the software supplier and request an upgrade for the problem software.

Certain computer systems that use BIOS routines that interact with the keyboard do not allow the keyboard to transmit certain information to the computer. This will cause very slow uploads and downloads to the keyboard or not allow uploads or downloads to the keyboard.

Special Key Combinations

Important key combinations for use with the Avant keyboard:

Reset To Factory Settings

Press and hold the <Escape> key while turning on your system. Use this function the first time you connect the keyboard.

Turn Macro Mode On or Off

Macro mode must be turned on to use any macros programmed. Press and release the right <Ctrl> key (4) times. Now press the left <Shift> key and, while still holding this key, press the <1> key (located by the Escape key). Release both keys, then press the <E> key. The LED on the <UP ARROW> key will then illuminate to show that Macro Mode is enabled.

To exit the keyboard's Macro Mode, press and release the right <CTRL> key (4) times. Now, press the left <Shift> key and, while still holding this key, press the <1> key (near the Escape key). Release both keys, then press the <D> key. The LED on the <UP ARROW> will then turn off to show that Macro Mode is disabled.

Reset Keyboard

To clear the keyboard memory while in an application, press the right <CTRL> key (4) times. Now, press the left <Shift> key and, while still holding this key, press the <1> key (near the Escape key). Release both keys, then press the <X> key. The Num Lock, Caps Lock and Scroll Lock lights will flash to indicated that your keyboard is now reset to the factory default settings.

CAUTION: Resetting your keyboard will clear all memory. All macro and re-mapping changes will be erased.

Manual Remap

To start and end manual remap of keys, press the right <CTRL> key (4) times in a row. Then press the left <Shift> key and, while still holding this key, press the <1> key (near the Escape key). Release both keys, then press the <R> key. The LEDs will flash fast while waiting for the first "from" key in the move sequence. While in manual remap, remap keys by pressing a key (from key) then pressing the key you wish to change the first key to. Example: Press the <P> and the <H> will now be a <P>. Press the right <Ctrl> key (1) time to exit manual remap.

Change to Macro mode by clicking the button in the upper right of the screen.

The program switches to Macro mode and the display is updated.

The first step in programming a macro is to select the key combinations to use to begin the macro. Most keys on the keyboard can be used. The most popular keys to use are easy to remember combinations. Here we will use the combination of the <CTRL> key and <N> key to create a name macro.

Click on the <N> key on the keyboard displayed on the screen.

Choose <CTRL> under Select a Modifier at the bottom left of the program screen. This combination tells the program you wish to hold down the <CTRL> key and then, while still holding down the <CTRL> key, press the <N> key.

Now that the key combination has been selected, tell the program to change the result of this key combination. Press the EDIT button.
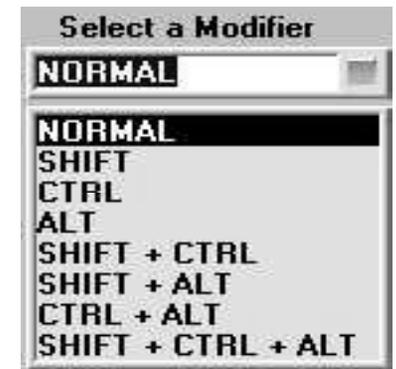
The cursor jumps to the box labeled Macro Definition. Type your name, using the keyboard, or type in a fictitious name like Jane Doe. Include any capitalization or punctuation you would normally use. If you wish to put your name on two separate lines, type in your first name then click on the Enter key on the *displayed* keyboard, then type in your last name. Notice that the macro program shows the enter key with the < and > symbols surrounding the descriptions. All special keys use this method of description.
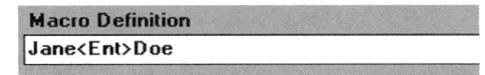
Click on the Accept button.

Your macro is now recorded.
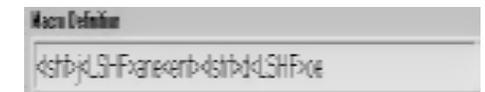
To review what is recorded, click on the <N> key and select <CTRL> under the modifiers. The macro description is displayed. The utility automatically adds any special key description necessary to emulate what is typed. The program will add shift indicators before and after any capitalization to exactly emulate the way you typed.

To program the keyboard with the new macro, click on the download button. After the download is complete, you may exit the utility.

After downloading your macro, you must turn on the keyboard's Macro Mode to use your macro. Press and release the right <CTRL> key (4) times. Now, press the left <Shift> key and while holding it down press the <1> key (near the Escape key). Release both keys. Now press the <E> key. The LED on the UP ARROW will then illuminate to show that Macro Mode is enabled.

Try your macro in a word processing program by holding the <CTRL> key down while pressing the <N> key. The text you entered in the macro will appear.

To exit the keyboard's Macro Mode, press and release the right <CTRL> key (4) times. Now, press the left <Shift> key and while holding it down press the <1> key (near the escape key). Release both keys. Now press the <D> key. The LED on the UP ARROW will then turn off to show that Macro Mode is disabled.

The Macro Description field has a limitation of 20 characters. Using any more than this can cause unpredictable results with the download feature of your keyboard and you may not be able to save your layout to file.

Clearing Keyboard Macros

To clear the macro from the keyboard, start the Avant utility.

Switch the program to Macro Programming.

Click on the button labeled Clear All.

Download the new program to the keyboard.

All macros are removed from the keyboard.

Swapping the CAPS, CTRL and ALT Keys

The Avant keyboard allows exchanging the CAPS LOCK, CTRL and ALT keys. This option is provided for those preferring an alternate keyboard layout or who require a specific layout for particular software. You may remove the keys from the default positions as described below. See the following section regarding the proper method of removing keycaps.

Standard Layout

Alternate Layout using supplied keycaps
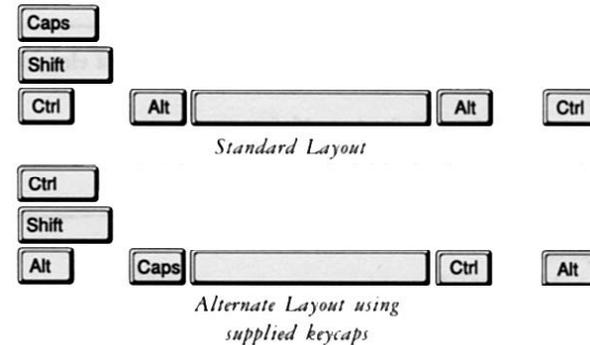
- Remove the ALT and CTRL keys on the right side of the keyboard and swap their positions. (Refer to Pulling the Key Caps section below for instructions.)
- Remove the CTRL, ALT and CAPS LOCK keys from the left side of the keyboard.
- Place the original ALT key in the new position.
- Place the special replacement CTRL and CAPS LOCK keys in the new positions and press them firmly into place.
- Install and run the Avant Utilities software and re-map the keys as described in the on-line help.

Pulling the Key Caps

Use the key cap puller to remove the key caps as follows:

- Hold the puller by the handle.
- Fit the tweezer arms over the key you want to remove.
- When the arms snap into place under the key, pull straight up with firm pressure. Don't wiggle the puller from side to side. This will damage the key switch.
- Place the new key cap on the exposed key switch and press down firmly to lock the key cap in the new location.